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Combat Crew

strategic air command

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AUGUST 1982

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THE GOAL IS ZERO

"Those who do not learn from history
are doomed to repeat it." Santayana

Reams have been written and, I'm sure, will continue to be written about mishap prevention. We've all heard how to prevent accidents — increase supervision, adhere to tech data, retrain personnel, instill aircrew discipline — and may be tired of hearing these maxims of safety. But let me illustrate the progress that has been achieved in mishap prevention over the years.

During World War II, aircraft and personnel losses from **training** mishaps outnumbered combat losses. In 1950, USAF experienced 1,744 major aircraft accidents for a rate of 36.0 mishaps per 100,000 flying hours. In that same year, SAC had 188 major accidents for a 43.0 rate per 100,000 flying hours. Ten years ago, in 1972, the USAF number had dropped to 163 accidents and a rate of 3.0, while SAC had 10 for a 2.3 rate. Last year, USAF experienced 80 Class A flight mishaps and a 2.44 rate while SAC had four Class A's and a rate of 1.15.

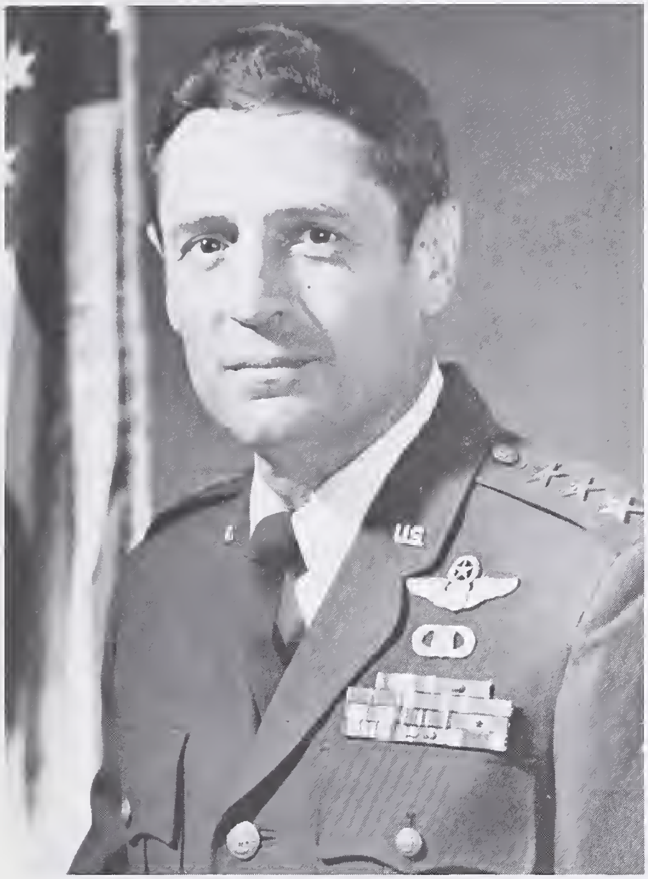
Let's put some of those rates into perspective. In 1950, if your wing flew what the average SAC bomb wing flies today (9-10,000 hours), your wing would have experienced **four major accidents per year!** In 1981, flying those same 9-10,000 hours, your wing could experience one Class A mishap every ten years or so — quite a change. We've achieved this reduction because we designed, trained, supervised, maintained, and flew smarter — and we thoroughly investigated mishaps and "close calls" to find out why they occurred, fixed what was wrong, then spread the word throughout the command; in effect, we learned well from the mistakes of the past.

Here are two cases in point: several years ago, a B-52 on a combat mission in Southeast Asia lost all four transformer-rectifiers. Two of the systems which were rendered unusable were the flaps and fuel boost pumps. The aircraft was committed to a night, heavy-weight, no flap landing at a strange field. Enroute to the landing field engines #1 and #2 flamed out, further compounding the already serious emergency. Touching down within the first 1,000 feet of runway, the aircraft skipped and the drag chute, which was deployed too early, failed. The aircraft left the departure end of the runway at about 75 knots and ended up in a mine field. There were five fatalities. The mishap was investigated and among the causes were:

- **Materiel failure — TR units.**
- **T.O. deficiencies — no listing of what components were lost in the event of TR failures. — no requirement to brake at touchdown for a no flap landing.**
- **Supervisory — the pilot was placed in a situation for which he was untrained and unable to cope.**

On 7 February 1981, history repeated itself when a B-52G on a normal training mission from Barksdale AFB experienced virtually the same loss of TR units. Control power to most electrical systems including the fuel pumps was lost, so the mishap aircraft could neither burn nor transfer fuel from the body tanks, and the trapped fuel was causing the C.G. to move toward the aft limit. A Hotel Conference was established and supervisors decided to divert the aircraft to VFR conditions and a 12,600 foot runway at Wright-Patterson AFB. Enroute to Wright-Patterson, engines 1 and 2 flamed out due to fuel pump cavitation. The aircraft was now committed to a six-engine, heavy-weight (375,000 pound), no flap, strange field landing. Stopping distance was calculated to be 11,000 feet. Sound familiar? Touchdown was 750 feet from the approach end of the runway. The number one tire blew on brake application at 155 knots, drag chute was deployed at 135 knots, and the aircraft stopped on centerline 1300 feet from the departure end of the runway. Damage was limited to the brakes, tires and TR units. There were no injuries.

You can argue interminably over the relative merits of the pilots involved and other variables, but the bottom line is that instead of five fatalities and a destroyed B-52, there is a crew and aircraft still flying today as a result of the lessons learned from a previous tragic accident. The changes to the tech orders, to training, and the very fact that the



Lt General Robert T. Herres Commander, 8th Air Force

mishap information was publicized and assimilated by the aircrews, supervisors, and commanders made the lessons learned a part of the corporate memory. All the people who participated in the successful recovery of the B-52 had learned the lessons and applied them successfully.

I believe it is time to acknowledge that we have made commendable progress in reducing mishaps — progress not possible without the full cooperation of the aviators, maintenance teams, supervisors, and engineers. However, I temper my admiration of the tremendous strides we have made with the admonition to continue learning from those expensive lessons of the past. We all deserve to feel proud of our accomplishments, but we also owe it to ourselves and our future comrades-in arms to continue searching for the safest way to accomplish our combat role. While our business of flying and training to prepare for combat makes a zero flying mishap rate unlikely — training as safely as possible in quest of the elusive *"Goal of Zero"* is not! It can be done! ★ ★ ★

"Chance favors the prepared mind."
Louis Agassiz

Combat Crew

Magazine of the Strategic Air Command 32nd Year of Publication

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ON THE COVER

A final salute to the Vulcan Bomber and the fine RAF men who manned it.

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DEPARTMENT OF THE AIR FORCE

Vulcan Farewell

Offutt AFB, Nebraska — The first and largest Royal Air Force detachment in the States ended air operations this June with one final Vulcan bomber scramble and formation flyover at Strategic Air Command Headquarters.

Established as a transport command staging post for the RAF's Far East commitments in 1957, the unit began operation at Offutt some 25 years ago. "Right off, the detachment found itself involved in 'Operation Grapple,' the British Nuclear Test Program at Christmas Island in 1958," an RAF spokesman reported.

In November 1959, control of the detachment passed to Bomber Command so that the aircraft servicing and other services provided at Offutt could be utilized in training of Vulcan Bomber crews on the bombing ranges within the United States. "1968 saw a change in the structure of the Royal Air Force when the Bomber Command amalgamated with other commands. From that date, the detachment has remained under the direct control of Strike Command, but working under the guiding hand of Headquarters 1 Group, RAF Bawtry. While in Strike Command, the detachment had also been parented by both RAF Waddington and RAF Finningley," the spokesman added.

Over the past 25 years, the Vulcan has been a familiar visitor to Offutt with the RAF detachment providing full servicing facilities for its low-level flying training programs. The Vulcan, "being the world's first Delta-wing Bomber," has been the mainstay of Britain's contribution to the NATO deterrent force, with its chief virtue being its ability to "hedge hop" at very low levels under the enemy radar. Due to restricted low altitude training in Western Europe, the large, wide open and less populated areas of central USA have proved invaluable for RAF crews to perfect their low level flying techniques.

"This detachment and others once provided access to the Pacific," reported Squadron Leader Adrian Sumner, commander of the detachment. "However, the commitments in the Far East were reduced in the mid-70's thus closing many of the staging posts."

The role of the Vulcan also changed during this time frame. "The aircraft changed tactics from a high altitude bomber to a low flying bomber, much like the tactics of the B-52," Sqn. Ldr. Sumner added.

While the role of the Vulcan was changing, so was the job of the detachment, as emphasis was placed on training under potential operational conditions. "This area provided three main flight training benefits which weren't available in the United Kingdom," the commander explained. "Our crews are able to train in extreme weather conditions, in varied terrain, and in relatively uncongested airspace. It might also be noted that in comparison of land mass, the UK is just about the same size as the state of Nebraska."

Vulcans were sent TDY to Offutt each week for servicing and flying training. "Aircrews coming here experienced a wide variety of challenges," continued the commander. "Such things as whiteout, when everything from the ground to sky is white, to fatigue from the summer heat.

"The Royal Air Force first added an international flavor to Strategic Air Command's Bombing and Navigation competition (GIANT VOICE) in 1951. Throughout the years, the RAF had competed in this competition with the Vulcan and other aircraft. These include the propeller driven four-engined Lincoln bomber, and the Valiant, the first all-jet bomber in the V-force." During the competition, RAF crews used their best navigational and bombing skills in competition to win the various trophies. In 1974, the 101 Squadron from RAF Waddington, flying Vulcan MK2s, won the Navigation Trophy, and the 230 Operational Conversion Unit, RAF Scrampton, also flying Vulcan MK2s, won the Mathis Trophy.

Squadron Leader Sumner, as the last and 14th commander of the detachment at Offutt, prepared the following summary of the Vulcan aircraft history. He is well qualified to do so, having been associated with the Vulcan for more than 12 years — an aircraft that has taken him around the world.

"On the top of Red Mountain overlooking the Alabama city of Birmingham, there stands a gigantic iron statue, one of America's most remarkable monuments. The towering figure is one of the few monuments in the world erected, not to commemorate an event or to perpetuate the memory of a person, but to symbolize industry. Likewise, the Vulcan aircraft symbolizes an engineering triumph which has enabled the aircraft to remain flying for almost 30 years.

"The Vulcan's initial inception was on New Year's Day 1947, when work on designing an aeroplane that would fulfill the very demanding Air Ministry specifications for a high altitude bomber capable of carrying a nuclear warload at speeds approaching Mach 1.

"Over the years, the Vulcan has served as the backbone of the RAF from 1957 until mid-1969, the aircraft helped to provide the United Kingdom with her strategic nuclear deterrent, being equipped with either free-fall or nuclear stand-off missiles.

"But with the advent of the Royal Navy Polaris submarines, from 1969 the Vulcan has assumed the role of a tactical nuclear bomber, to which its low level all-weather capability has been well suited.

"Moreover, the Vulcan still has the option of being tasked for conventional operations for which its ability to deliver 21 1,000-pound bombs over a considerable range makes it a significant weapon system.

"Major events in the life of the Vulcans were seen in 1981. Firstly, on Feb. 17, a Vulcan touched down at Scrampton, England, to complete the 500,000th flying hour on Vulcan air frames. Then April saw the beginning of the end, when the first two aircraft of the current Vulcan fleet were retired from service and flown with due pomp to their resting ground.

"On July 25, major celebrations were held at RAF Scrampton and Waddington to commemorate the 25th anniversary of entry of the Vulcan into RAF service. This year, the last Vulcan bomber is scheduled to fly operationally in the UK, at last having to bow down to modern technology and economic restraints, truly the end of an era!

"The Vulcan's long and checkered history will never be forgotten; a career which is unlikely to be surpassed by any future generation aircraft."

Squadron Leader Adrian Sumner

SUPERVISORS & SAFETY

Col Lloyd K. Houchin
351st SMW/CV, Whiteman AFB

The Air Force Mishap Prevention Program essentially has a single purpose: to help complete our mission without damage, injury, sickness or death due to a mishap. We have many directives which tell us how to manage the program — Air Force Regulations 127-2, 127-12, the Air Force Occupational Safety and Health Standards, etc. We also have a full-time safety staff available on base. But is it enough? I think not!

What then does the program need to be successful besides well-written directives and a professional safety staff? It needs you — the supervisor! No matter what level of supervisor you are, the program can never be successful unless you are genuinely concerned about the well-being of your human and material resources. Healthy people and serviceable equipment are essential to mission success, but you are the key link in the leadership chain. The safety program must have your total support if it's to be effective at the production level.

There are some problems inherent in our line of work which will impede our efforts to have a mishap-free environment. We, as supervisors, must promote safety and overcome the obstacles to safe mission accomplishment. One of the most obvious obstacles and challenges we face is change, technological change. New technology creates constant changes to our weapon systems. When this happens, personnel require new system knowledge. They essentially become trainees again. The supervisor's positive support in incorporating safety awareness is critical under these circumstances.

Another obstacle is the environment in which many of us work. Long hours, occasional bad weather, repetition, you name it. They all make motivation difficult at times. This increases the demand on supervisors, but I assure you we have many good supervisors who will overcome these obstacles.

We face some of these obstacles every day. I'm sure you can think of many more, but how do we overcome them? Many problems may have several solutions, and for any given situation you have to combine your experience, judgment and the facts available to choose a solution. Day-to-day there are several things you, the supervisor, can do to promote safety. First, you must understand and believe in the need for safe working practices. If you don't, your subordinates will never be motivated toward safety. You must also live safely. Follow the technical order and directives for the job. Safety isn't something we'll take care of when the work is caught up. It's a full-time job — for all of us. If you live and believe safety, then training safety comes naturally. We must train safe practices from the beginning, and beyond the training stage, never tolerate unsafe practices! Once you do, no matter what the situation is, your credibility and safety is in jeopardy.

There is no "pat" solution to safety problems, but the supervisor's leadership is essential to insure we complete our jobs safely. We owe it to the public, whose tax dollars we spend, and to the people who work for us. Given the expense and nature of our weapon systems, we can't afford failures of our mishap prevention programs. It is you, the supervisor, who will make the Air Force Mishap Prevention Program work.

AN ALTERNATIVE TO PANIC

Lt Garry M. Schull
916AREFS
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In every human being, there is an inherent psychological condition which appears during times of extreme threat or duress. Medical authorities tell us that, during these times, our bodies shift into a hyperactive state. While in this state, our minds speed up fantastically, our muscles can develop super-human strength and our entire system undergoes some type of chemical change. All of this sounds great, a little like changing into an instant superman.

You're probably wondering just what this has to do with flying? Let me try to explain. Contrary to how good the above superman image is, quite the opposite is true. This condition which I've described above is actually the predecessor for PANIC, a condition that has probably killed more pilots than all of the aircraft mechanical malfunctions combined. Prior to panic setting in, the mind speeds up in an effort to find a solution to the immediate problem before it, but as the mind hunts for a solution, the hunting itself brings on panic. The reason for this is that the brain actually becomes less productive, not more productive during this time. Tunnel vision sets in, the eye muscles constrict causing slowing or stopping of eye movement. Panic then sets in, all reason leaves us and we tend to lash out wildly. If this weren't enough, while in this panic state, we tend to concentrate upon a fixed solution, whether it be right or wrong.

We can all remember reading at one time or another about the pilot flying in IMC conditions who comes screaming out of the clouds, fully intact, only to pull back on the yoke with all his might, and "SNAP," so long wings and tail. Where he wouldn't have even popped a rivet, the pilot ends up making his *final* landing.

Humans, unlike other animals on this earth, have an integrated part of our make-up called emotions. While these emotions usually work great in most normal every day situations, they tend to hamper solutions to inflight emergencies, especially when the emotion involved is panic. There isn't much we can do at the present time to protect ourselves against emotions, especially since they are an integral part of our human make-up. Hopefully, some day medical science may come up with a cure for emotions, but until that time, we are stuck with them. But don't give up hope, there are some preventive steps which can be taken to prepare us for those fateful moments.

For pilots, probably the best weapon against panic is experience. When the gear fails to retract on take-off, the 20 hour student might panic for an instant. The fact that the gear is down . . . the aircraft doesn't accelerate as it normally would . . . trying to remain below gear placard speeds . . . etc. . . . , well to say the least, it is distracting and since it is a full time job to fly the darn airplane in the first place, the 20 hour student is in no position for surprises. On the other hand, the multi-thousand hour veteran pilot would probably react to the same situation by reciting a few chosen words, fixing the problem and continuing along his merry way. There is, however, one major flaw to this "experience is the best solution." It seems one has to survive many hours and years worth of potential panic situations before one develops some immunity to panic.

An approach which one can adopt much quicker than waiting all those years for experience, is knowledge. The pilot who understands the characteristics

of a compressor stall is less likely to panic the first time he encounters engine roughness with or without audible pulsations. This is not to say the knowledgeable pilot will sit there and yawn through an engine fire/failure situation, but instead will do everything in his power to solve the problem by pulling the fire switch, cutting off the throttle, and observing checklist discipline. Sure his heart is pounding, but with the knowledge of how to handle the situation, this pilot is not succumbing to panic or indecisiveness. This pilot's mind is working effectively to solve the problem along with maintaining control of his aircraft.

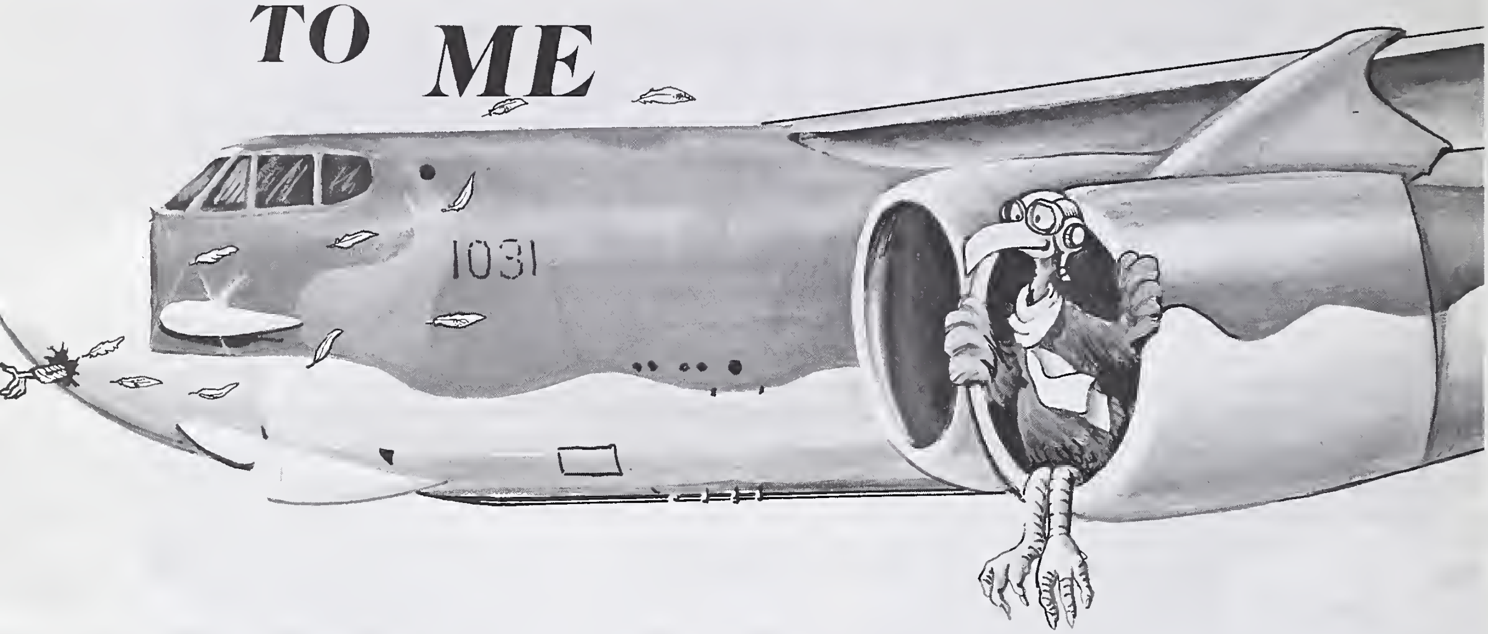
If you look closely at the above situation, you'll notice the pilot went through some exact actions to solve his problem with the engine fire/failure. These procedures are known as "critical action" items. Critical action items constitute the minimum required steps to be taken by a crewmember to ensure survival in a given emergency situation. If one enacts these procedures over and over until they are firmly implanted in the mind, these critical action items may just get the pilot out of a calamity, even if his brain quits on him. By drilling these critical action items into our brains, we are, in effect, acknowledging the fact that our brain may go on vacation during times of dire stress. This leaves the pilot confused at a time when he needs to be in full command. We therefore automatically avoid doing something dumb by having these robot-like actions memorized. So while the conscious mind is crying out with panic and your heart is pumping out blood faster than an Oklahoma oil well, your subconscious is reacting — throttle-cut off, fire switch-pull, starter switch-ground start, etc. . . . The whole thing boils down to this, that in an emergency, a person must have the rational intelligence upstairs in order to take the proper steps.

All pilots have, at one time or another, heard of, or read the phrase, that during an emergency, "be calm." This seems like good solid advice, but there is a problem with this phrase. Each human being has his or her own psychological make-up, which is one reason no two of us are exactly the same. Because of this, we have our own inbred stress tolerances. These tolerances allow some of us to take on more problems at a given time than another would be able to do in the same period of time. It seems therefore that to believe that a simple statement of "be calm" would be of any great help in reacting to an emergency in a proper and rational manner, is one of wishful thinking.

Probably the best advice I've heard for an emergency situation comes from my Undergraduate Pilot Training days. Briefly stated, the advice was "Wind The Clock." When things go wrong, there is a momentary period of shock, and during this period, human beings have a natural tendency to grab for something without really thinking about what they are doing. Realizing that even UPT STUDS are human beings, it was stressed, that if we should find ourselves in an emergency situation, we should "Wind The Clock." This would give us something to grab for during our momentary period of shock, plus it insured that the clock was always wound. In fact, during my UPT days, I don't ever remember finding a clock that wasn't wound, and very tightly at that. HHMMM . . . It is far better to wait a second and collect your wits, than to go off half cocked, flipping switches and moving levers, changing a minor problem into a major one.

In conclusion, no amount of preparation can assure a pilot 100% immunity to mental blackouts or panic during those fateful moments of dire stress. But by having the necessary knowledge and skill, the odds are in the pilot's favor that he will be able to cope with his emergency without panic.

IT'LL NEVER HAPPEN TO ME



Capt Thomas D. Brown, Jr.
340th BMS, Blythville AFB

As crewmembers, we have all been exposed to flying safety programs. We are briefed on the most recent accident investigations and various safety related items. Sometimes this information is received with the attitude that, "It'll never happen to me." If you have that attitude, let me tell you what did happen to me.

It all started during a locally generated practice ORI. We were in the middle of the bomber stream flying the previous semester's low level ORI route. The mission was going smooth and the aircraft was in good shape. We went through the first bomb run and all the offsets showed as advertised. I was really starting to feel good about the mission.

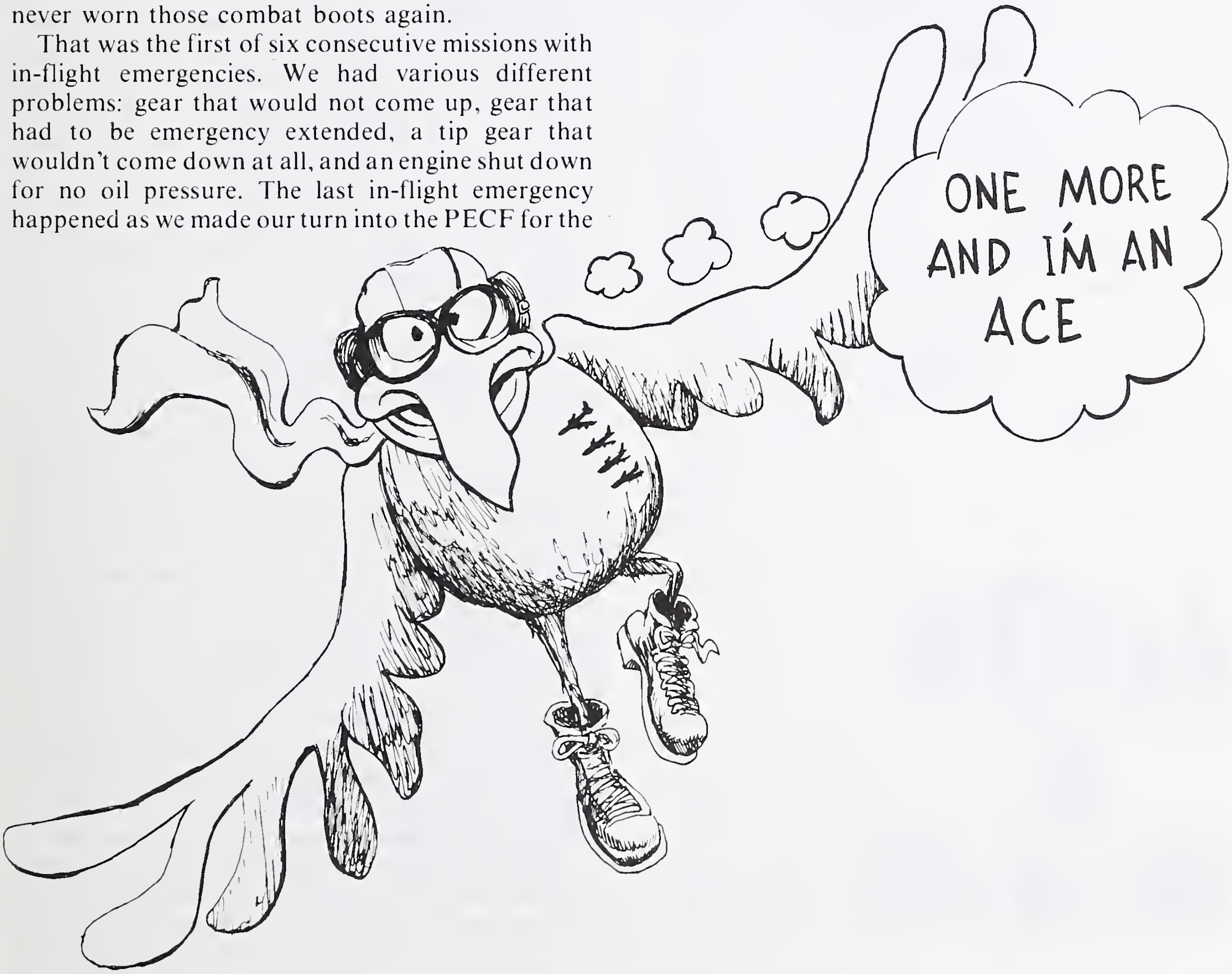
All of a sudden there was a loud POP from the front of the aircraft. My ears also popped. At first I thought we had hit a tree or something. After checking the radar altimeter and the radar scope, I knew we were too high to hit anything on the ground. I looked over at the navigator to see if he knew what happened. It was obvious from the expression on his face that he was as concerned as I was and didn't know what was going on either. During this time we had not heard a single word over the interphone. We did notice that the aircraft was in a gradual climb. I don't know how long the interphone silence lasted. It seemed like hours, but was probably only a few seconds. I guess the nav and I figured it was time to find out what was going on at the same time because we both keyed the mike simultaneously and said, "What is going on up there?" I must admit that I am not sure that those were our exact words, but it was something to that effect. The copilot answered, "We took a bird."

What had happened upstairs up to this point is a different story. The gunner was riding in the IP seat and was the first to see the hawk with its wings fully spread (of course we didn't know it was a hawk at that time). It was right in the center of the windscreen and the gunner swears that the wing span was as wide as the airplane. Although the gunner saw his life flash before his eyes and ducked in a very expedient manner, he did manage to point out the bird to the pilot before he hit the deck. The pilot applied back pressure to the yoke as the hawk went into a tuck to avoid us. The bird hit the aircraft just below the windscreen on the pilot's side. It went completely though the skin of the aircraft, bounced off of the back of the instrument panel and came to rest on the pilot's right combat boot. The feathers were sucked into the crew compartment and covered the electronic warfare officer. They were also blown up under the pilot's helmet visor and caused a temporary loss of vision. The copilot took control of the aircraft and continued the climb to IFR altitude. At about this time the nav and I were asking, "What's going on up there!"

After the pilot took an inventory of all his body parts and found that he was all there, we aborted the low level route and advised center of our problems. We checked all of our systems to see if there was any damage. We were lucky that the bird did not destroy any aircraft systems. The only problem we had to deal with on the way home was the rather large hole in the nose of the airplane. We couldn't pressurize the crew compartment which forced us to remain at low altitude for the trip home. The hole also caused a very cold draft on the pilot which meant that the heat had to be turned up very high. It got very warm downstairs and we had to be on watch for overheating of equipment and personal gear. We made it home and made an uneventful landing. The pilot has never worn those combat boots again.

That was the first of six consecutive missions with in-flight emergencies. We had various different problems: gear that would not come up, gear that had to be emergency extended, a tip gear that wouldn't come down at all, and an engine shut down for no oil pressure. The last in-flight emergency happened as we made our turn into the PECF for the low level portion of an ORI. We were struck by lightning and lost all of our aircraft power. When we finally got our power back on the line, we heard the aircraft behind us telling center that they had also been hit by lightning making the same turn. The aircraft behind him was the last in the stream and he aborted the mission prior to the point that the lightning strikes occurred.

As you can see, in-flight emergencies do happen. The key to flight safety is being mentally and physically prepared to handle any situation. Think about how you would handle different problems. What would you expect from the rest of the crew? Mission planning day is the time to discuss these things; you don't have the time when an emergency happens in the air. Monthly safety meetings are only a small part of flight safety. Your mental awareness is the most important part. If you think "It'll never happen to me," we just might be hearing about you in our next safety briefing.


ONE MORE AND IḾ AN ACE

STANDING BY YOUR

ANON E MOUSE

The flight was going great, a quiet night, full moon, smooth weather. The old fan-jet Boeing was performing better than advertised seeing as how we were ahead of the fuel curve. The Co and I were settled in, comfortable and basically happy to be pilots. In stark contrast to our peaceful reverie, the battle staff in back was furiously waging and winning WWIII. Then the tranquility of us front enders was violated when over channel 9 we heard a plaintive voice say, "Ah, roger Fang control, Norma 35, flight level 390 for fuel conservation. Understand weather bad your station. Standing by your words."

"Can you believe that, CO?" I exclaimed.

"I know," he replied, "I guess some guys don't have a mind of their own." We continued listening.

"Ah, roger. Okay, we'll proceed to COOL and await your words."

"COOL!" I shouted incredulously, "Did he say COOL? That guy's from my old home drome. COOL was the IAF at Ex Air Force Base. I can't believe this (expletive deleted) I'm hearing."

Probably 75 percent of you red-blooded, all-American crewdogs reading this article understand the source of my consternation. Those of you who don't, keep reading and we'll discuss some of the basics involved in being a SAC crewmember and an Air Force officer. In the Air Force, the powers that be give you an airplane and a mission. It's up to you to determine how best to get the job done and handle the contingencies. You are expected to accomplish your mission subject to several parameters. First and foremost, don't be reckless or take dumb risks. Bending an airplane, or worse, hurting someone are not justified on any peacetime mission. Second, you are expected to follow sound operating procedures. Generally, this parameter parallels the first, and in most circumstances, if you follow the book, you'll probably be safe. The final parameter is more of a driving expectation. You have to have initiative. The way of safely accomplishing the mission may not be

WORDS

what you planned and may not be covered in any directive.

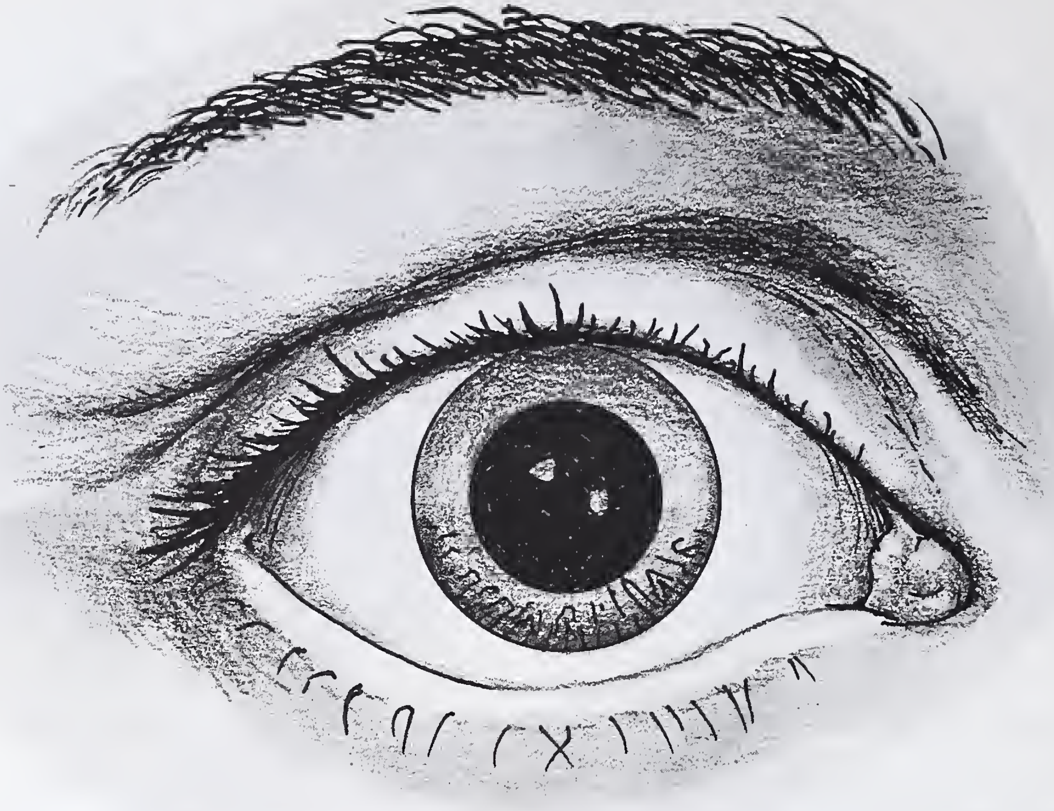
In my opinion, initiative is what distinguishes the really good crewmember from the mediocre. You can get a machine to respond to instructions, but even the most advanced computer lacks the human creative capacity to do the job that has never been done before. What bothered me was the pilot's apparent lack of initiative. He never even suggested what he wanted to do or what he thought was best. Additionally, who cares if he was at FL 390 for fuel conservation? If he thought 390 was best, he's the pilot and that's that.

You are probably thinking that this poor slob upon whom I am heaping the glowing coals of my righteous indignation has been covered by a tyrannical DO; or perhaps bullied by a wing commander with more desk time than flying time. Not true. As a staff safety officer, I worked closely with both. Not only were they superb gentlemen in every respect, but they were basically crewdogs at heart. Both had more time in a KC-135 than I thought possible. Sure they demanded a solid performance, that's to be expected from outstanding leaders. However, when you made a mistake (which I did with embarrassing frequency), they asked only that you admit it, learn from it, and take the necessary actions to prevent recurrence. If that isn't reasonable I don't know what is. So, the problem boils down to the pilot. Perhaps he couldn't or wouldn't make the decisions required by the bad weather. That's a pity. He was in the best position to make those decisions. First, metro could have told him everything he wanted to know about the weather. What they couldn't tell him, he could observe for himself. Second, he was in the best position to determine the limitations and capabilities of his aircraft.

The crewmembers know better than anyone what their abilities are. Perhaps the pilot felt that his instrument skills were at a low point due to a lack of recent experience. If prudence and good judgment dictate, there is nothing wrong with elevating your personal minimums and diverting. Just be ready to explain your rationale to your DO and be willing to take advantage of the additional training you will undoubtedly receive. Of course, it's a good idea to advise "Charlie" of your plans to divert. You and your airplane are his responsibilities and he likes to know what you have in mind.

There are those who will take what I'm saying to an unacceptable degree and say, "Don't speak to the command post unless spoken to." No good. While chauffeuring the Airborne Command Post, I'm always impressed with the communications capability we have. When you have problems, your local command post can put you in touch with just about anyone in the world. If they can't, we can, and your local command post can call the airborne command post. But when you are talking to that expert from AFLC, Boeing, Lockheed, McDonnell-Douglas, General Dynamics, your local maintenance, or even your IP from Castle, don't forget his toes are planted on good old terra firma and your fanny's in jeopardy.

Remember, the final word is, and should be, yours. So get all the advice you need, then you decide what's best. If "they" don't like it, then negotiate. Above all, show your initiative. "They" may lose a career, but you may lose your (expletive deleted).



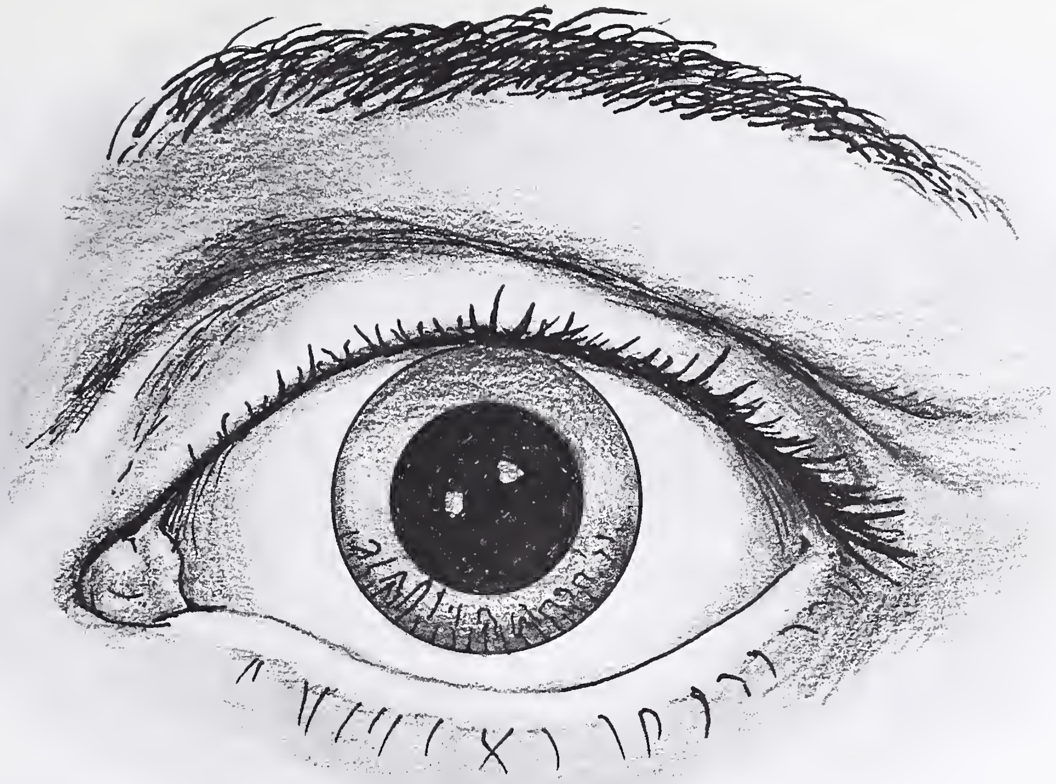
"THE EYES HAVE IT"

Capt Michael W. Cole
912th AREFS, Robins AFB

For those of you old old heads out there who can still remember the good ol' days of flying, let us stir up some memories. I'm not exactly sure when that period began or when it ended but the point is this, in those days of aviation's infancy there was an attitude about flying that undoubtedly saved some lives.

A lot of pilots felt that everybody was trying to kill them, and of course during the war years maybe they were — well almost everybody. This attitude was a good one in that it made pilots and crews be cautious, very cautious, almost to the point of trusting no one if you didn't have to. Very sound logic and few flyers disputed it.

As the years went by, along came slow but steady improvements in the airplanes and nav aids as well as short periods of peace where about three-fourths of everybody weren't shooting at the pilot and crew. With the improving safety record and decreasing accident rates also came seemingly increased complacency on the part of aircrews. So now the attitude had changed to something like, everybody's trying to help me. I think we all have heard something like "just here to help" before. We know that may be stretching the truth a bit. A little more use of the old attitude might be put to good use now and then just to be on the safe side.



We have heard stories about airplane crews flying over their destinations, falling asleep, etc., especially those flying the heavies. If that isn't an example of complacency and overtrusting, I don't know what is. Now assuming that your crew is awake for the entire flight, let's discuss what we can do to offset complacency. What about scanning outside the aircraft? That sounds pretty basic, but is there at all times someone in the cockpit with his eyes outside. Probably not a bad technique.

Let's discuss a case in point. While participating in a European Tanker Task Force, a tanker was flying in trail formation 1000 feet above and directly behind the lead ship. This crew was good, all were experienced. Like most of our flights at altitude, they were trusting ARTCC to maintain separation from traffic especially since they were on an altitude reservation. They were flying on an airway under center control during daylight VMC. There was a deck below and the sky was slightly hazy. The pilot was doing an excellent job of flying cell with lead, the copilot doing some paperwork, and so was the boom. The navigator had his radar tuned for station keeping with lead, was in search mode with the scope expanded to about four and one-half miles.

Everyone had their eyes in the cockpit except the pilot who was peering over the glare shield at the lead airplane trying to maintain position. On the nav's scope there appeared another return identical to the one he was watching. This return was tracking right down the scope from the top to the middle, and it was moving fast; two sweeps on the scope and it had moved faster than anything he'd ever seen. With that he jumped up between the pilots' seats and without even having seen anything visually, shouted "traffic at twelve o'clock." As the last word was shouted, two black circles appeared dead ahead and level.

The pilots had looked up by now to share the stark fear of looking down the whiteout nose of a DC-9 and its two black engine intakes growing larger at a closing speed of

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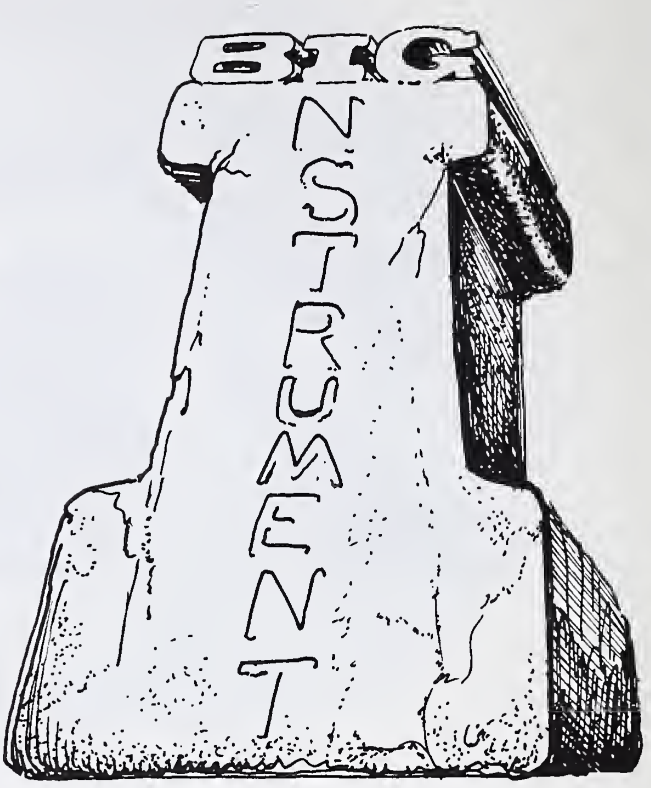
OPENING SOON SIFC



Lt Col Edward T. Miles
Capt Rhett T. Cooper
1st CEVG Barksdale

What is a SIFC? Doesn't every good instrument pilot know what is involved in a SIFC maneuver? Well, probably not. However, SIFC will soon be a very important part of this world called "Instrument Flight" and could be the best thing that has happened to your crosscheck in a number of years.

If you've been around the flying business for a while, a course called "The USAF Instrument Pilot Instructor School, (IPIS)," will ring a bell. If you were real lucky, you may have had the chance to attend that once upon a time "one of a kind school."

IPIS was simply an institution devoted to making pilots experts in instrument flight through platform academics, simulator periods, and inflight instruction. Unfortunately, IPIS closed in 1978 but that's where SIFC comes into play.

SIFC stands for the Strategic Air Command's Instrument Flight Course. This will be a ten working day course taught at Castle AFB, California. This course, like IPIS, will be devoted to producing experts on matters pertaining to instrument flight. If you are one of the two lucky individuals from your wing/group selected to attend the school this year, you will have the opportunity to arm yourself with instrument expertise that can be used regardless of weapon system. Some major objectives of the SIFC are:

- Reduce SAC aircraft mishaps.
- Provide a SIFC faculty and graduates to postulate the criteria and standards of SAC instrument flying.
- Provide graduates who will become the focal point at the unit level of aircrew questions pertaining to instrument flying.
- Provide a unit expert to commanders on matters affecting instrument training and procedures.

Graduates will be a ready unit reference and consultant as well as liaison to the SIFC. These individuals will be used actively as the supervisor and curriculum monitor for their unit's instrument ground and flight training programs, to include the SAC Annual Instrument Refresher Course, (AIRC). As you can see, through this needed training SAC has again taken a giant step forward in the interest of aircrew safety.

You're probably wondering just what will be taught during the SIFC program. Well, the curriculum covers a variety of topics and the following is a sample of academic courses and a synopsis of typical information covered during each block of instruction.

Short and Long Range Navigational Aids. Explains capabilities, limitations, and uses of each type NAVAID including criteria and tolerance for operation. Identifies required pilot actions in the event of specified malfunctions.

Radar. Describes ARTCC radar equipment commonly available to USAF pilots and identifies capabilities and limitations of each. Defines pilot and controller responsibilities in radar/nonradar environment.

Instrument Landing System (ILS). Discussion of the characteristics of ILS ground equipment including capabilities and limitations. Identifies similar and dissimilar ILS characteristics which apply to the most common military and civilian equipment.

Preflight Weather. Identifies weather services available to pilots on the ground and limitations of these services.

Enroute Weather. Identifies weather hazards a pilot may encounter inflight and procedures/techniques to minimize these hazards.

Approach Criteria. Identifies responsibilities for establishment, review, and publication of instrument procedures and the inspection of navigational aids.

TERPs Laboratory. Using AFR 60-27, AFM 55-9, and instructor assistance, the class develops a non-precision approach to include calculations for minima determination.

TERPs Seminar. With the use of AFR 60-27, AFM 55-8, AFM 55-9, the class researches and discusses selected questions received by 1 CEVG Instrument Division concerning instrument approaches.

Approach Lights. Describes the characteristics, effect, and value of airfield lighting aids. Discusses assistance provided the pilot by approach lighting and runway lighting aids.

FLIP. Explains the FLIP program background and management with emphasis on Defense Mapping Agency (DMA), Military Department, and FAA regulations.

Preflight Requirements. Defines the primary Air Force source documents which contain guidance pertinent to instrument flight operation.

Services. Describes the flight plan processing system and functions and services provided by flight service facilities.

General Flight Rules. Explains general flight rules listed in AFR 60-16, with SAC Sup 1, and relates these rules to instrument flight operation.

VFR/IFR. Details the guidance in AFR 60-16, with SAC Sup 1, and other applicable publications which govern the operation of USAF aircraft under visual and instrument flight rules.

ICAO. Discussion of the International Civil Aviation Organization and the relationship of ICAO standards and recommended practices to Air Force global operations.

ARTCC Procedures. Describes the functions of and services provided by the FAA Air Traffic Control system. Explains pilot procedures contained in FLIP and relates these procedures to those of the Air Traffic Control system.

Circling Approaches. Defines purpose of a circling approach and limits of the circling approach area/obstacle clearance area. Explains correct circling procedures, including missed approach, and visual illusion a pilot may encounter during the circling maneuver.

Low Altitude Approaches. Describes proper procedures/techniques for executing a procedure turn, procedure track, and holding in lieu of the procedure turn instrument approach procedure. Discusses procedures/techniques for flying non-precision approaches.

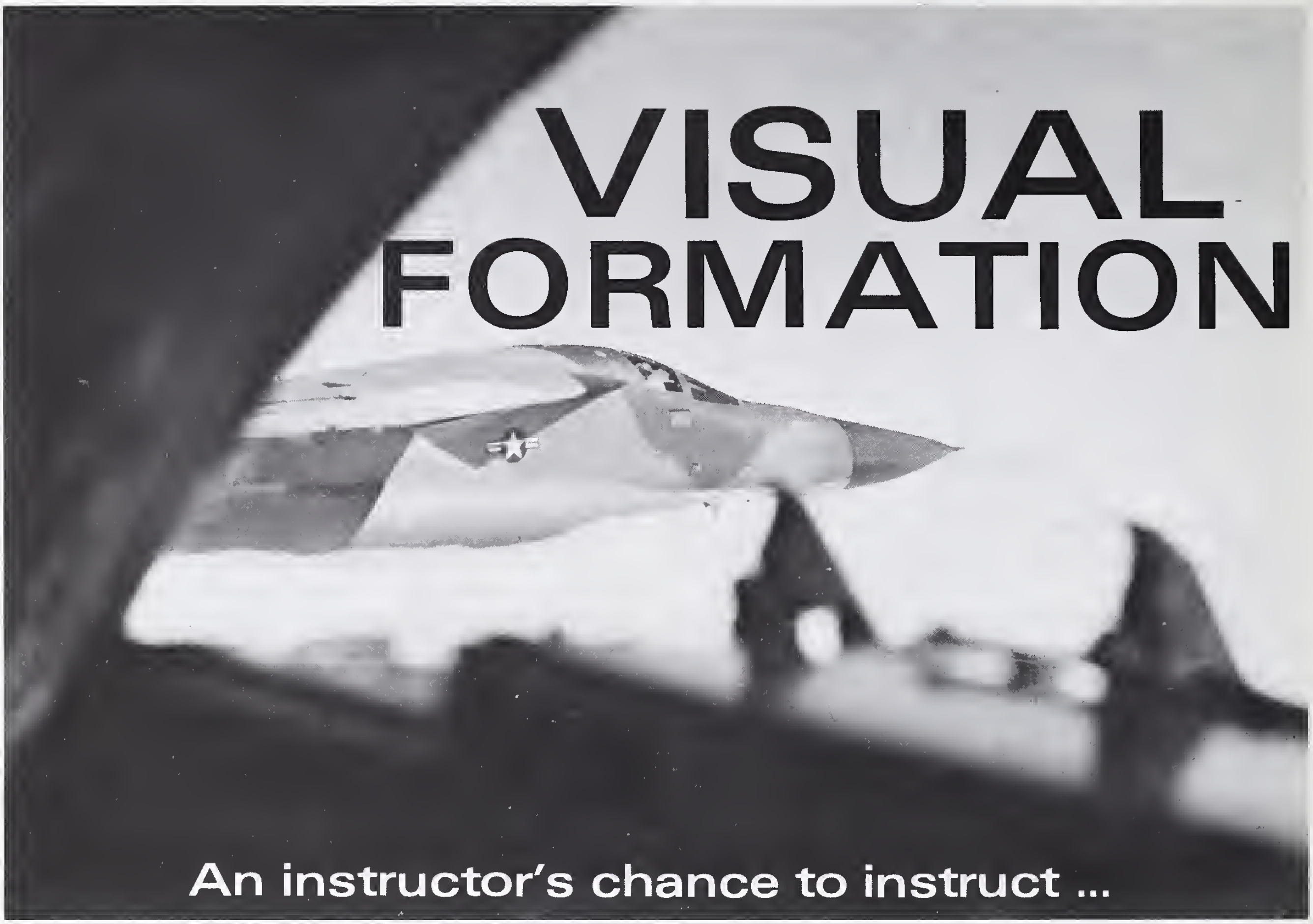
Wind Shear. Explains the weather phenomena most likely to cause wind shear. The effects of wind shear on final approach and pilot actions for coping with the various types of shear are discussed.

Landing from an Instrument Approach. Describes how physiological limitations affects the pilot's ability to land from an approach during obscured weather conditions. Explains procedures/techniques to execute a safe approach and landing/go-around during marginal visibility conditions.

Annual Instrument Refresher Course (AIRC). Defines the regulations, pamphlets and other publications used in administering SAC's AIRC. Techniques and recommended practices for effective instrument refresher training are discussed in detail.

In addition to the above academic courses, there will be five T-40 simulator periods where you will have a chance to perform every instrument maneuver from "basic attitude instrument flight" through "low altitude arrivals." If it is a maneuver, procedure, or technique in AFM 51-37, it will be covered during the SIFC.

1 CEVG views this school as a tremendous opportunity for SAC pilots to enhance their "professional" flying skills. The importance of this school was summed up by the Commander-in-Chief, Strategic Air Command, when he penned approval for the SIFC concept. His signature was followed by one word . . . "Good".



VISUAL FORMATION

An instructor's chance to instruct ...

CFIC Corner

Maj Jack Johnson
Chief, FB-111A CFIC

You say you graduated from CFIC many months ago but haven't had a chance to fly in the right seat and instruct anyone yet? Welcome to the crowd! Granted, a bomb squadron IP doesn't get very many chances to instruct from the right seat with a "student," but while you're waiting to go to CCTS or the simulator section, you can impart a lot of knowledge to your fellow Aardvark drivers. Visual formation is an area that can always use improvement, and as an instructor in the FB-111A, you should consider it as an opportunity to train someone without being in the same aircraft with him.

All too often we find formation leaders who join up their formation and fly straight and level flight to the air refueling, break up soon thereafter, never wanting to hear from their wingman again. Formation should be more of a learning experience than that and you are not doing your job as formation lead or as an IP if you don't challenge your wingman. It can work the other way, too. When you are on the wing, it's easy to pick up some common mistakes of others in the formation.

There are several formation techniques and considerations I like to cover in CFIC that you may find interesting. Some you may put the *BS Disapproved* stamp on, but hopefully they will stimulate your interest. All of you lucky copilots who get to fly in the ACE Program may find some applicable points, too.

As with anything else, a good sound briefing convinces your wingman of your leadership ability. Be there early, gather your information and present a positive, yet concise, briefing. And for heaven's sake, find a quiet room to brief. If no other room is available, don't be afraid to quiet down the surrounding area.

It's surprising how many guys consider a 10-second spacing takeoff as number two or three an ITO until they are deconfigured and get the wings back; then they start looking for lead. Remember, the whole idea is to get *together* after takeoff, not drift apart. So watch your leader and follow him while cleaning up the aircraft.

It's really a lot of fun to do pitch out and rejoins and this valuable training can be easily accomplished with a minimum of effort. And face it, it's nice to know your wingman has done a few leisurely rejoins at home before he comes screaming toward you at RED FLAG.

How do you do a turning rejoin and what are your references? First of all, as an IP in the right seat you have to make sure your left seater doesn't do a perfect T-38 type rejoin because if he does, you won't be able to see the lead aircraft during much of the rejoin. (Scary at best.) Placing lead's vertical stab through his upwing tank (middle of the upwing, if clean) will give you the fore and aft line and a good vertical reference that has lead slightly above the horizon and visible from the right seat. Set lead's airspeed under the airspeed marker and this will give a quick glance cross-check of overtake. Now we are sliding down the line with both angular and airspeed overtake (max of 50 knots), but when do we start bleeding off the airspeed? Easy. Day VFR — when the rotating beacon becomes prominent enough to see, it's time to kill the airspeed overtake.

Aggressive wingwork builds proficiency and confidence, but there is a time and place for everything. If you're in heavy weather or in vertigo conducive conditions, normal cruise is probably in order. Ever have a lead who rachets his turns? If so, offer the technique of looking outside while turning if there is a visible horizon. It is much easier to notice this bad habit outside than on the ADI. Please try to keep your wingman out of the sun, but if it's unavoidable, he should know that he can move his eyes to your tail as the sun comes across the nose, and as the sun moves toward the tail he should move his eyes forward. Too many wingmen blind themselves by looking only at one wing reference even if it means staring at the sun. Another nicety is to call for *lockouts* prior to calling for wingsweep changes.

A good leader will minimize his turning corrections during the rendezvous, i.e., one big correction rather than four little ones. Also don't get into a running commentary with the boomer on who is coming in first, etc. You just may have to call for speedbrakes and not be able to get a word in edgewise. This is a very important point for any of you boomers who may be reading, too. Let the formation get settled into position before you ask extraneous questions. Finally, when leading at night, don't change your lights for A/R until you have cleared the rest of the formation to the wing.

If a wingman can no longer see his leader because the weather has become too thick, it is a physical impossibility and not something that makes him a *weak sister.* Wingmen should understand this and not hesitate to go lost wingman. It is very important for the right seater to keep the left seater appraised of his attitude when in the weather. The reason being if the aircraft is in a 30-degree right bank, but the pilot thinks he is straight and level, he may instinctively roll further right and have you close to 90 degrees of bank or inverted before getting on the ADI.

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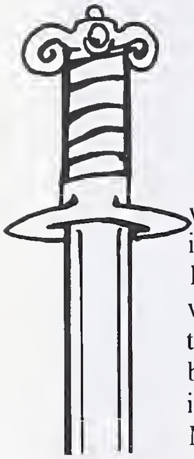
Capt Joseph M. Chiofolo
Vandenberg AFB



I was in a book store the other day looking over all the "How to . . . Without Really Trying" books. These books would have you believe there is a shortcut to success in many occupations. That may be true, but one book you won't find in any store is "How to Succeed As a Missile Combat Crew Member, Without Really Trying." There are no easy shortcuts to the mastery of this profession. If someone wrote a *"How to Succeed As A MCCM,* ***With Trying,"*** what would it list as vital to a Missile Combat Crew Member?

The first step on the road to becoming a good MCCM is a proper attitude. All the tech data, background knowledge, and instructors in the world cannot create a good MCCM unless he has a "can do" attitude. The MCCM who believes in the mission and is enthusiastic toward his or her development will progress rapidly in a missile career. Your positive attitude will not only reflect in your personal appearance and conduct, but ultimately in your ratings during Standardization Evaluations. However, attitude is not enough!

You also need discipline and integrity. During an evaluation, with your every move being watched, stress will demand discipline. The checklists must be followed as written. Any slip in your discipline could lead you down the path to a major or even critical error.

On alert your integrity will be tested once you close the blast door behind you. No one but your partner will know whether you "do it right" or not. The proper attitude and discipline will mean nothing unless you possess the integrity critical to your profession. No matter how easy the shortcuts may appear, there is **no** place for them in the missile business. The double standard of "in the MPT" **vs** "on alert" cannot exist. Bad habits and shortcuts can never be tolerated.

Hand-in-hand with discipline and integrity goes professionalism. "Sound professional judgment" is more than a saying in the missile field. You must be professional at all times. When you joined the Air Force you entered a very special profession — not just another job! The duties you perform are vital to this country. Our national defense rests on your ability. Nuclear deterrence has kept us free, but it is the capability and professionalism of the crew member that has made deterrence work.

Persistence is another key element in the development of a crew member. Never let mistakes keep you down. Learn all you can from them. There have been too many individuals who have made momentary slips during an evaluation and "gone down the tubes" for good. They never recover, the error follows them forever. Basically, they give up and don't push ahead. On the other hand, there are many crew members who have made the same mistakes, but their persistence and determination to succeed has caused them to excel. A good example of persistence was illustrated at the Missile Combat Competition at Vandenberg AFB. Both the Commander and deputy on one of the operations crews had failed their Initial Qualification Training evaluation while students at Vandenberg AFB. Their persistence paid off. They were selected to represent their wing which went on to win the Blanchard Trophy — The Best in SAC.

The ability to concentrate on developing your skills is another vital step toward success. Remember, once you leave Vandenberg and IQT you're not finished. Everytime you go on alert concentrate on a few checklists and procedures. Study them in depth with your partner. Don't wait until you're ready to sleep to study. Do it now, not when you're tired. Re-read Sections I and II. Know what each checklist step, note, lead-in, warning, caution, and amplification really means.

Take advantage of every opportunity you can to increase your knowledge. Always complete your monthly self-study training. Be prepared for the recurring training classes each month. Go beyond what is offered in these packages. Talk with the wing instructors and evaluators. These personnel have a wealth of experience and knowledge. "Pick their brains" for everything you can. While you're a deputy, take advantage of your commander's experience and knowledge. Never let this pool of valuable experience be lost through a PCS or "recrewing." The time to concentrate and study is now, not after you've blown an evaluation.

Crew coordination goes hand-in-hand with studying and discipline. Know your partner and how he or she will react under stress. Develop your crew skills. Study together on each alert and off duty, as well. Challenge your crew partner with tough questions. Have your partner do the same to you. Really dig into the tech data and regulations. The more you know, the better off you'll be.

This hypothetical "How to . . ." book can point the way for present and future crew members. But unlike the book, responsibilities and duties are not hypothetical, they are very real. Since World War II, no adversary has dared attack the United States. Your abilities and professionalism are a vital part of our country's defense. Until the day when our positions are no longer necessary, we must be prepared. Your missile career can be a very worthwhile experience, "but not without trying!"

Editor's Note: Captain Chiofolo is assigned to the 4315th Combat Crew Training Squadron where he has been a Minuteman ICBM Course Development Manager and an ICBM Operations Academics Instructor for the past three years. He also performed missile crew duty at Ellsworth AFB, South Dakota, from August 1975 to June 1979.

How to succeed as a missile combat crew member, but

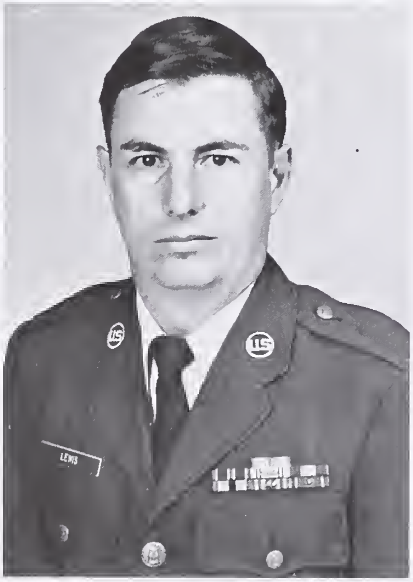
NOT WITHOUT REALLY TRYING

THE CUTTING EDGE

Flying Crew

Capt Ron Alderman, P; Lt Don Clem, CP; Lt Tim Hood, CP; Capt Jim Cannon, RN; 2Lt Mark Hicks, N; and Capt Jeff Perkins, IN, 320th BMW, were returning from a night B-52G training sortie. During descent the crew experienced loss of airspeed indication, and leveled the aircraft at 3500 feet using stabilizer trim settings and fuel flow. The ground speed indicator was unreliable and the transponder was inoperative, denying the crew any other sources of airspeed information. The situation was aggravated by a 1700 feet ceiling, moderate rain and a low fuel status. Suspecting pitot-static system icing, Capt Alderman declared an emergency and received an assigned altitude of 1600 feet. Using power and trim settings, he flew the aircraft while the copilot rechecked all switches and circuit breakers. The navigators monitored aircraft position and advised when the ground speed indicator appeared reliable while the IN coordinated emergency actions with the command post. Another B-52G was transitioning in the area so Capt Alderman requested a joinup. Using the ALR-46 with approach control vectoring, the chase B-52G joined up with Capt Alderman's aircraft. The crew then requested vectors for a wide downwind to an ILS approach. Because of poor weather, low fuel, and the riskiness of a go-around, it was critical that the first approach and landing be successful. Capt Alderman flew an airspeed out approach using the chase B-52G for airspeed information down to 300 feet above touchdown where he took over visually and made an uneventful landing.

PROFESSIONAL



Missile Maintenance

TSgt Richard A. Lewis, 90th SMW, F. E. Warren AFB, is SAC ICBM Maintenance Airman of the Month. Assigned to the wing's technical engineering branch since 1978, Sgt Lewis has provided the quality of expertise that has resulted in the wing achieving the highest alert rate in the command during three of the four years he's been assigned. This year the wing also had the lowest missile launch facility partially mission capable rate in SAC. Recently, a Minuteman III missile was off alert for several days while teams worked around the clock to restore launch capability. All maintenance actions were accomplished; however, the sortie remained off alert. Sgt Lewis was called to troubleshoot the problem. He quickly traced the problem to miswiring in an electronic component. The miswiring removed power from the missile guidance chiller valve causing the guidance package to shut down due to an overheat condition. The problem had not occurred prior to this incident, but became evident when a modification to the chiller amplifier changed the ground routing of the wire shielding.

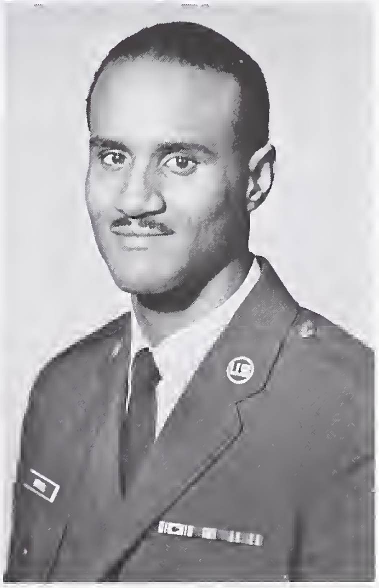
Missile Crew

381st SMW, Crew E-022: 1Lt Jeffrey V. Jenkins, MCCC; 2Lt Mary Jane Woods, DMCCC; A1C Paul A. Wells, MSAT; and Amn David M. Bable is SAC Missile Crew of the Month. On alert, the MCCC discovered the stage 1 oxidizer pressure gauge was reading dangerously high. He dispatched the MSAT and MFT to the silo equipment area to investigate.

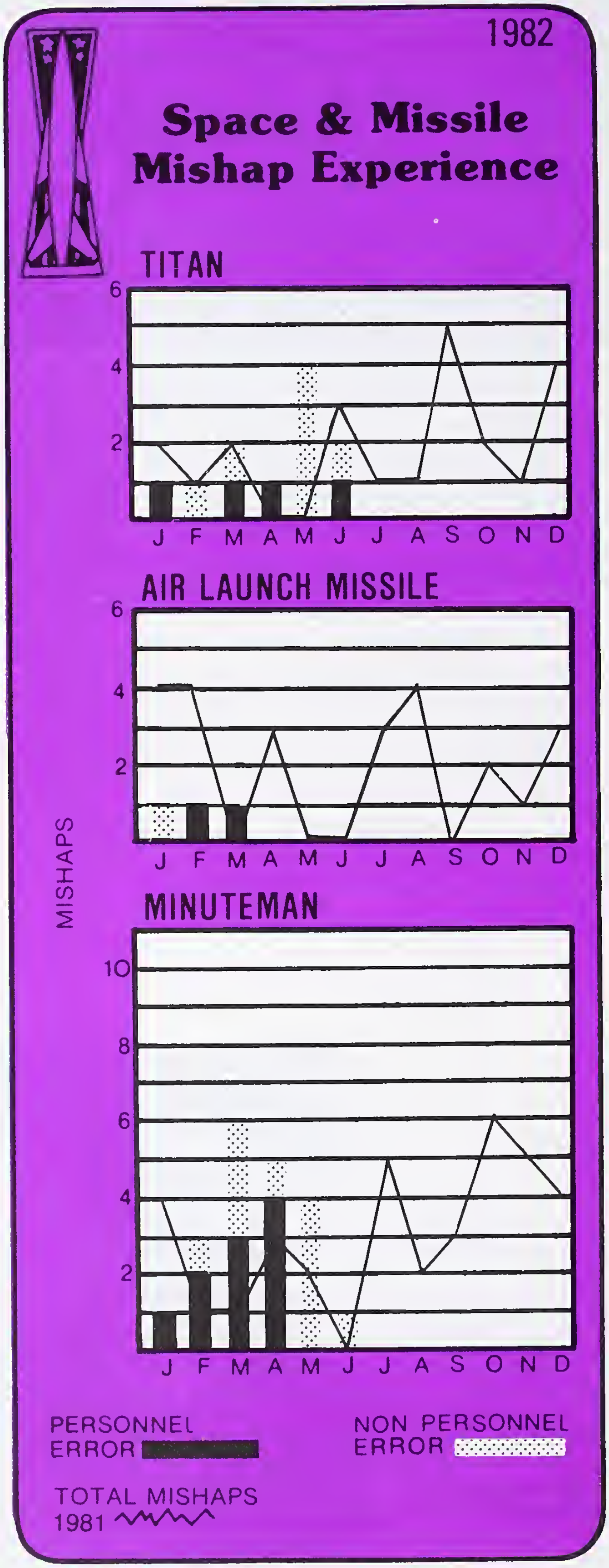
They found the situation was critical. The launch duct temperature was 10 degrees above normal and rising. All three of the launch duct air conditioning system's water chillers were off-line. The crew discovered that backup pumps 103 and 104 were activated, but could not pump enough water to allow the launch duct air conditioning system to function. The MCCC reported the stage 1 oxidizer tank pressure was rising and close to threatening the sortie's alert status and developing into a potential hazard. Having exhausted technical data troubleshooting procedures, the crew relied on system knowledge and experience in determining their next action. The MCCC sent the two crewmembers above ground to inspect the cooling towers and to check the level controller and temperature controller isolation switches. The MSAT and MFT reset the switches and returned to the silo to monitor results. The launch duct temperature fell to acceptable operational limits, and stage 1 oxidizer tank pressure diminished to within normal parameters. Crew E-022's quick reactions and weapon system expertise prevented a hazardous situation from developing.

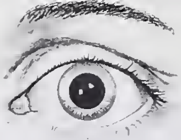
PERFORMERS

Flying Maintenance Man



Sgt Henry R. Mitchell, 42d Field Maintenance Squadron, Loring AFB, is Strategic Air Command Maintenance Airman of the Month. His selection is based on outstanding achievements and contributions towards his unit's mission. His immediate and effective actions in converting two KC-135 personnel parachutes for use in a T-37 aircraft enabled the T-37 to accomplish its mission as planned. In addition, Sgt Mitchell devised a system for tracking and matching the annual inspection due dates of CO_2 cylinders and one-man life rafts undergoing various repairs or inspections. This resulted in a 50% reduction in the annual removal, repacking and inspections. He also developed a status board which significantly improved the visibility on inspection due items resulting in timely maintenance completions, a thorough, systematic training program for both shop and crew chiefs. Sgt Mitchell's performance is indicative of a dedicated professional who is a valuable asset to this command and the United States Air Force.





"THE EYES HAVE IT"

Continued from page 15

840 knots. You have all heard about the effects of viewing oncoming or traffic moving directly away. But not until you experience it, heaven forbid, can you truly appreciate the feeling of seeing traffic that merely gets larger rather than passes from one side to the next. It took about a billioneth of a microsecond for the pilot to override the autopilot to bank the plane hard and fast.

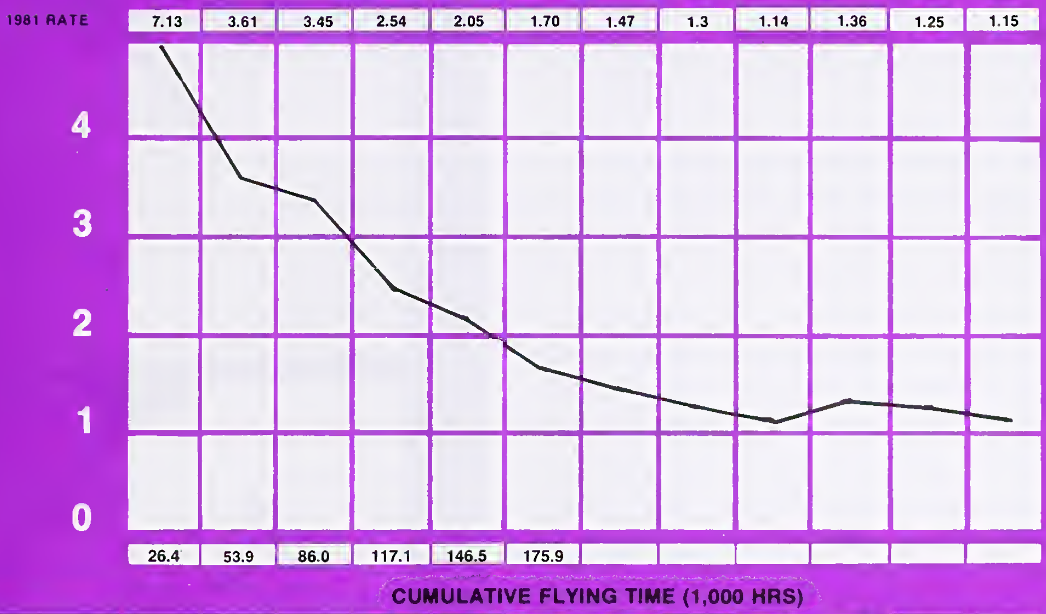
The boom, who by now had stood up, was thrown and cut his knee. One of the crew chiefs we were carrying was starting to get out of his bunk but was slammed back in by the maneuver. The airliner obviously hadn't seen us until he was staring at our belly and didn't take any evasive action. We cleared him by an estimated 200 feet, maybe less. We all had to take a quick trip to the latrine after that and somewhere along our then more eventless flight, we were able to bring our lower jaws back into their proper position. The copilot was however still having trouble replacing his eyeballs.

Back on the ground, we checked for any dents or signs of paint scrapings — it was a close one. Having acquired the airplane visually at two miles and at a closing rate of four seconds to travel a mile, it is questionable whether we would have seen him even had we been looking. But it serves to make a point for not becoming complacent. Don't forget that those watching us on the ground are only people prone to make mistakes, sometimes at the most inopportune time.

This incident was a once in a lifetime experience, so we are glad it's over with and we can get back to flying safe. It will happen again, but we hope not to anyone of us. Don't become complacent. You have to trust people in the flying business and that's not likely to ever change, so use your crew. SAC aircraft, with its multiple crew positions, have certain advantages with all those extra pairs of eyes on board. Let's keep a set of eyes outside the cockpit and some day when you sit down with your grandchildren, you can tell them about flying in the good ol' days.

1982 Flying Safety Rate

SAC CLASS A MISHAP RATE (PER 100,000 FLYING HRS)



MISHAPS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1981	2	0	1	0	0	0	0	0	0	1	0	0
1982	0	0	0	0	0	0						

1982 SUBORDINATE CMD RATES

MISHAP STATUS

+KC-135A	MAR 82
+KC-135A	MAR 82

LEGEND ⁀ = 1981 RATE (SAC)
+ = ANG
− = AFRES

VISUAL FORMATION

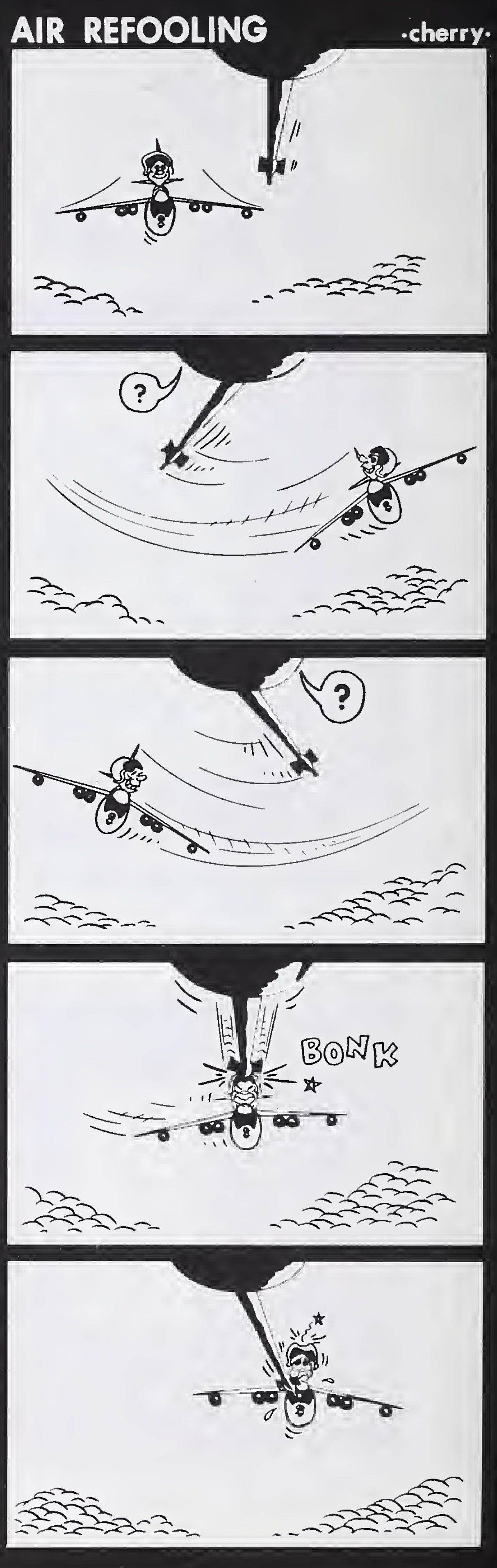
Continued from page 19

If it's the guy's first wing approach and the weather is anything VMC, I would *knock it off* until another day. And even if it's not his first flight, a large part of your formation lead/IP pay is there for judgment — so always be prepared to *knock it off* if things are going worse than planned.

With the wingman on the right, you should request all left turns to final, if possible, since this optimizes any lost wingman situation. When it comes time to configure, do it VMC if possible, because the FB-111A goes through a lot of gyrations and flight control system changes as the gear, slats and flaps come down. After a few approaches, most guys are able to hang in there without regard to weather. The evolved visual wing sweep signal is a *thumbs up* that you slide back and forth along the canopy rail. If you plan something different, make sure you brief it. As a wingman, when lead calls for "Gear, Slats," leave your hand on the throttles until he says, "NOW." If you have your hand on the gear handle when he says "Now" you will be about one second ahead of him because he is still on the MIC button. A small point, but one that makes configuration easier. Once configured, don't forget to keep your power up as a lead because your wingman no longer has a speedbrake to use and he may just cruise right past you. What's the *stacked level* reference on final? Remember the term *wingtip in the star?* Well, in the FB-111A, that's stacked level. Check it out when parked on the hammerhead — that's about as level as you can get.

Probably the least fun part of formation is trying to hang in there cross cockpit, but it's not too tough if you mentally prepare yourself to disregard all of the garbage you have to look through and concentrate on lead. The same references hold true cross cockpit, but make sure you don't move too far forward in an effort to keep lead's wingtip visible in the side canopy (the one that opens and closes). If you do, you have just brought your wingtip dangerously close to lead stabilizer, especially if you are too tight.

Formation is a valuable part of our training in the FB-111A, and it's a segment that should be trained effectively. As an IP/IN, we have the responsibility of ensuring that everyone in our organization understands all facets of formation flight and that they have the skills to safely perform them. There are a myriad of techniques that go well beyond the basic procedures in SACR 55-11. I have listed but a few, and I'm sure you have others. Talk to the *new guys* and the *old heads* about them. Remember, you should consider visual formation your opportunity to instruct.



SAC
SAFETY SCREEN

509 AREFS, Pease Crew R-122: P Capt Dale Cook, CP 1Lt Michael O'Rourke, N Capt Guy Cyr, BO SrA Castordarryl Franklin

509 AREFS, Pease Crew R-123: P Capt Roger Clements, CP 1Lt Mark Relford, N 1Lt Michael Stiers, BO Sgt Daryl Pettis

51 BMS, Seymour Johnson Crew E-05: P Capt Robert L Humphrey, CP 1Lt Stephen S Kline, RN Capt George L Lane, N 1Lt Dennis E Barber, EWO 1Lt Joseph F Hawkins, G Sgt Theodore A Johnson

911 AREFS, Seymour Johnson Crew R-103: P Capt Gary A Love, CP 2Lt Charles W Robertson, N 2Lt Michael A Kolb, BO SSgt Ricardo H Reed

911 AREFS, Seymour Johnson Crew R-115: P Capt William G Baxley, CP 1Lt Jeffrey G Franklin, N 2Lt Susan M Morgan, BO A1C Michael S Rathburn

524 BMS, Wurtsmith Crew S-01: FP Maj John E York, CP Capt James T Callender, RN Capt Edward A Bondzeleske, NN Capt Lansing E Dickinson, EW Maj Carl W Lay, AG SSgt Michael Stailey

920 AREFS, Wurtsmith Crew R-135: FP Capt Benjamin J Franklin, CP 2Lt Danny R Pegram, NN Capt Robert A Wohlers, BO SSgt Jon M Bibler

351 SMW, Whiteman Crew E-131: MCCC Capt James A Marker, DMCCC 2Lt Dan H Reichel

308 SMW, Little Rock Crew R-116: MCCC 1Lt Rickie J Bellanger, DMCCC 2Lt Dexter F Moore, MSAT SrA Randolph L Long, MFT A1C Jeraldine K Vincent

90 SMW, F E Warren Crew R-133: MCCC 1Lt Graham M Mongeon, DMCCC 2Lt Kim R Bjerkebek

91 SMW, Minot Crew R-135: MCCC 1Lt Richard S Parkinson, DMCCC 2Lt Mark W Nelson

321 SMW, Grand Forks Crew E-092: MCCC 1Lt Jack C Gardner Jr, DMCCC 2Lt Randal T Russell

9 SRW, Beale Crew E-283: P Capt Larry E Faber

307 AREFG, Travis Crew E-151: P Maj Robert K Anderson, CP Capt Carl H Berdahl, CP 1Lt Catherine M Cook, N Capt Terence W McDowell, BO A1C Nathan D Holt, Jr

100 AREFW, Beale Crew E-119: P Capt William J Holton, CP 1Lt Richard A Malone, N Lt Col Harry R Sadler, BO SSgt Edward J Stevens

917 AREFS, Dyess Crew E-111: P Capt Willis E Beightol, CP Capt William A Eberst, N 1Lt Kim L Wilson, BO A1C Thomas G Belew

337 BMS, Dyess Crew E-13: P Capt Arvil V Taylor Jr, CP Capt Kenneth J Miller, RN Capt James E Meier, N 2Lt Scott K Franks, EW Capt Joseph K Biber, G SSgt Gary W Jackson

320 BMW, Mather Crew R-15: P Capt Ronald G Alderman, CP 1Lt Timothy J Hood, RN Capt James R Cannon, NN 2Lt James R Pavlisin, EW 1Lt Scott K Dortch, AG SSgt Robert K Ratcliffe

320 BMW, Mather Crew E-108: P Capt Keith A Atwell, CP Capt Leon M Hoffsette, NN Capt Eugene S Richardson, BO SSgt Alva W Medbery

93 AREFS, Castle Crew IT-58: IP Capt Ronald L Barrey, IN Capt Jerome F Conway, IBO SSgt Marvin L Aldrich

The SAC Safety Screen is an honor roll of SAC's most professional crews. To gain listing on the Screen, crew members must be nominated by their unit commanders and meet high selection criteria of experience in their aircraft or missile system *IAW AFR 127-2/SS1.*

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HALL OF FAME

FLARE

TACTICAL FLYING

OVER TWENTY-SIX YEARS	
170 AREFG, McGuire (NJANG)	Feb '56
OVER TWENTY-FOUR YEARS	
171 AREFW, Greater Pittsburgh (PAANG)	Mar '58
OVER TWENTY-THREE YEARS	
157 AREFG, Pease (NHANG)	Jun '58
940 AREFG, Mather (USAFR)	May '59
OVER TWENTY-TWO YEARS	
307 AREFG, Travis	Sept '59
OVER TWENTY-ONE YEARS	
151 AREFG, Salt Lake City (UTANG)	Feb '61
OVER TWENTY YEARS	
134 AREFG, McGhee Tyson (TNANG)	Aug '61
11 SG, Fairford	Feb '62
OVER NINETEEN YEARS	
340 AREFG, Altus	Jun '62
96 BMW, Dyess	Aug '62
OVER EIGHTEEN YEARS	
19 BMW, Robins	Aug '63
OVER SEVENTEEN YEARS	
160 AREFG, Rickenbacker (OHANG)	Dec '64
320 BMW, Mather	Jul '65
OVER FIFTEEN YEARS	
452 AREFW, March (USAFR)	Sep '66
92 BMW, Fairchild	Feb '67
55 SRW, Offutt	Jul '67
OVER FOURTEEN YEARS	
2 BMW, Barksdale	Aug '67
OVER THIRTEEN YEARS	
5 BMW, Minot	Feb '69
OVER TWELVE YEARS	
42 BMW, Loring	Sep '69
141 AREFW, Fairchild (WAANG)	Oct '69
28 BMW, Ellsworth	May '70
OVER TEN YEARS	
101 AREFW, Bangor (MEANG)	Mar '72
306 SW, Mildenhall	Apr '72
416 BMW, Griffiss	May '72
OVER NINE YEARS	
305 AREFW, Grissom	Aug '72
379 BMW, Wurtsmith	Apr '73
OVER EIGHT YEARS	
931 AREFG, Grissom (USAFR)	Feb '74
384 AREFW, McConnell	Mar '74
189 AREFG, Little Rock (ARANG)	May '74
OVER SEVEN YEARS	
43 SW, Andersen	Dec '74
OVER SIX YEARS	
68 BMW, Seymour Johnson	Sep '75
OVER FIVE YEARS	
410 BMW, K.I. Sawyer	Apr '77
190 AREFG Forbes (KSANG)	Apr '77
128 AREFG Milwaukee (WIANG)	Jul '77

ICBM

OVER SEVENTEEN YEARS	
1 STRAD, Vandenberg	Sep '64
OVER TWELVE YEARS	
341 SMW, Malmstrom	Apr '70
OVER NINE YEARS	
390 SMW, Davis-Monthan	Jul '73
OVER SEVEN YEARS	
351 SMW, Whiteman	Oct '74
91 SMW, Minot	Nov '74
OVER SIX YEARS	
321 SMW, Grand Forks	Feb '76

To gain listing in the Hall of Fame, a SAC or ARF unit must be Blass A mishap-free for 48 months.

*U.S. Government Printing Office
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